

NEW YORK STATE BOARD ON ELECTRIC  
GENERATION SITING AND THE ENVIRONMENT

At a session of the New York State  
Board on Electric Generation  
Siting and the Environment held in  
the City of Albany on April 1, 2003

BOARD MEMBERS PRESENT:

William M. Flynn, Chairman  
New York State Public Service Commission

G. Anders Carlson, Alternate for  
Antonia C. Novello, M.D., M.P.H., Commissioner  
New York State Department of Health

James McClymonds, Alternate for  
Erin M. Crotty, Commissioner  
New York State Department of Environmental Conservation

Jacquelyn L. Jerry, Alternate for  
Vincent A. DeIorio, Chairman  
New York State Energy Research Development Authority

CASE 00-F-0566 - Application of Brookhaven Energy Limited  
Partnership for a Certificate of Environmental  
Compatibility and Public Need to Construct and  
Operate a 580 Megawatt Electric Generating  
Facility in the Town of Brookhaven, Suffolk  
County.

ORDER AMENDING CERTIFICATE

(Issued and Effective April 1, 2003)

BY THE BOARD:

INTRODUCTION

On August 14, 2002, Brookhaven Energy Limited  
Partnership (Brookhaven) obtained a Certificate of Environmental  
Compatibility and Public Need to construct and operate a  
580 megawatt (MW) electric generation facility on Long Island.<sup>1</sup>

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<sup>1</sup> Case 00-F-0566, Opinion and Order Granting Certificate  
(issued August 14, 2002); Order Denying Petition for  
Rehearing and Granting Petition for Clarification (issued  
October 24, 2002).

Brookhaven planned to acquire its electric generation facilities and equipment from a certain manufacturer, Alstom. However, it was not able to obtain the turnkey operations it wanted from Alstom. Instead, Brookhaven has arranged for Siemens Westinghouse Power Corporation to provide it turnkey electric generation facilities consistent with its original plans.

By letter dated January 27, 2003, Brookhaven applied for a certificate amendment to permit it to use Siemens Westinghouse generation facilities. Notice of the company's application and petition was published in three newspapers on Long Island. Copies of the company's proposals were also served on the parties to this proceeding. Shortly thereafter, by letter dated January 29, 2003, the State Office of Parks, Recreation and Historic Preservation declared that the proposed changes to the electric generation facilities would not have any adverse impacts on the historic resources in the vicinity of this project.

On February 6, 2003, we issued the first of two notices soliciting comments in this case. The initial notice addressed Brookhaven's request for expedited consideration and it requested comments on whether any hearings were needed to consider the company's proposal. Other than the company, the State Department of Public Service (DPS) Staff responded to this notice. From its assessment, DPS Staff concluded that Brookhaven had submitted certificate modifications that did not require any hearings.

On February 19, 2003, we issued a second notice that solicited substantive comments concerning Brookhaven's specific proposals. Two parties filed comments in response. The State Department of Health (DOH) Staff evaluated the potential public health impacts of the proposed modifications and concluded that they were either the same or less than those associated with the original plant design. Also, from its review, DPS Staff found that the proposed changes did not alter many of the project's environmental impacts and, in some instances, the impacts were reduced. Both DOH and DPS Staff support Brookhaven's request for a certificate amendment.

THE PROPOSED MODIFICATIONS

Brookhaven submitted an affidavit with its petition, from its Vice President of Project Development, to support the request for certificate modifications.<sup>2</sup> The affidavit describes the bidding process the company used to solicit turnkey electric facilities from other firms. From its favorable review of the bid Siemens Westinghouse submitted, Brookhaven decided to select it as the engineer, procurement and construction contractor, and equipment vendor for the project.<sup>3</sup> Brookhaven stated that it selected the Siemens Westinghouse design largely because it would not produce any greater environmental impacts than those allowed by the Siting Board's August 2002 certificate.<sup>4</sup>

The proposed electric generation facilities are rated at 560 MW overall and they have a winter rating of 540 MW. This is 20 MW less than the ratings for the Alstom equipment.<sup>5</sup> The Siemens Westinghouse design also differs from the Alstom design in other ways. It contains two combustion turbines that power two steam turbines and turn two generators. Waste heat from the combustion turbines will be recovered to power a third steam turbine and generator. Alstom's turbines and steam generators would have been connected to two steam turbines.

Siemens Westinghouse will construct only one generator building with a twelve-foot lower profile than the two buildings Alstom would have built. The Siemens Westinghouse heat recovery steam generators are about eight feet taller than Alstom's.

Instead of building two air-cooled condensers, Siemens Westinghouse will construct one 90-foot tower with six fewer cells. Similarly, Siemens Westinghouse will install one emergency diesel generator to provide the same amount of capacity as would two Alstom emergency generators. The stack

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<sup>2</sup> Case 00-F-0566, Affidavit of Mr. Guy Marchmont, dated January 23, 2003.

<sup>3</sup> Marchmont Affidavit, ¶¶ 5 and 6.

<sup>4</sup> Affidavit, ¶ 7.

<sup>5</sup> Affidavit, ¶ 8.

for the diesel generator will be attached to a heat recovery steam generator stack and extend its height to 160 feet.

The leads and poles for the third generator will be located between the steam turbine generator transformer and the switchyard in an area approved for tree clearing. The installation of an additional generator connection for the Siemens Westinghouse equipment will require another circuit breaker in the switchyard's ring bus arrangement.

No longer is Brookhaven proposing to inject steam into the combustion turbines to augment electric power production. It now proposes to use inlet air cooling during warm weather and it would add an electric auxiliary boiler to the plant design. Various other changes of lesser note would also be made to plant buildings, roadways, and source locations.<sup>6</sup>

Brookhaven also provided support for the proposed modifications in the formal amendment application it submitted. The application contains the company's demonstration of the impacts associated with the Siemens Westinghouse design and shows that they are either the same or less than those associated with the Alstom design.

Brookhaven affirms that the plant's air pollution emissions will remain within the parameters set by the permits the State Department of Environmental Conservation has issued. Brookhaven has presented an impact analysis that models both criteria and non-criteria pollutants, and shows that all impact concentrations are less than the threshold criteria and within the applicable public health standards.

The electric generation facility's annual water use has been reduced by about 3.8 million gallons due to the elimination of steam injections for power augmentation purposes and the use of inlet air cooling. This will reduce the facility's peak day water demands by about 60%. Average day water consumption will remain unaltered during cold and temperate weather.

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<sup>6</sup> Affidavit, ¶ 9.

Less wastewater will also be produced at the facility due to the elimination of steam injections and the use of inlet air cooling. A reduction of about 8,100 gallons per day of wastewater is now expected during normal plant operations. No significant changes have been made to the design of the plant's sewer infrastructure.

Changes were made to the storm water design to include a transformer and an associated containment area. Modifications were also made to the indoor chemical storage for a revised boiler additive program. No changes were made to the number of outfalls or to the other processes the plant will use. Overall, the proposed modifications to the storm water management system are not expected to affect the plant's storm water impacts.

According to Brookhaven, all other environmental impacts to archeological resources, soils, geology and seismology, wetlands, and transportation remain as they were originally presented in this case.

With respect to noise impacts, Brookhaven proposes to retain the existing noise design goals for the Siemens Westinghouse facilities. However, these facilities are expected to produce slightly lower noise levels than the Alstom equipment at all receptor locations.

The Siemens Westinghouse facilities will not increase land use or site disturbances. No new construction locations, laydown areas, or interconnection routes are required. Some component locations will be modified but they will remain within the area that was designated for disturbance.

Brookhaven also points out that fewer buildings now require a local law height waiver. Its modified design for the demineralized water tank brings it into compliance with local height requirements. The proposed generation building also has a lower profile.

Brookhaven represents (and the State Office of Parks, Recreation and Historic Preservation has confirmed) that the modifications to the electric generation facilities will not have adverse impacts on historic resources.

Brookhaven also represents that similar Siemens Westinghouse electric generation facilities have proven to be reliable in use in the electric industry. It states that this equipment requires only small changes to connect it to the electric transmission system and that the changes do not require transmission system upgrades.<sup>7</sup> Estimates of the electric and magnetic fields for the modified facilities remain within the applicable guidelines.

The fuel supply estimates for the modified facilities vary only slightly from the original estimates provided in this case and they do not affect the delivery of fuel to this location.

Brookhaven continues to believe that this electric generation facility will provide significant socioeconomic and public interest benefits. In addition to reducing the annual emission of nitrogen oxides and sulfur oxides on Long Island, the company states that the project is expected to yield production cost savings of \$27 million or more, and it will provide local employment opportunities and other economic benefits for this region of the State. The construction of this much needed electric capacity on Long Island is expected to take 26 months. The commercial operation date for the modified facilities is now set for mid-2005.

#### DISCUSSION AND STATUTORY DETERMINATIONS

To begin, we observe that no one who received notice of Brookhaven's proposed certificate amendments has opposed them. Since the time Brookhaven's proposals were first

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<sup>7</sup> By letters dated January 30 and March 17, 2003, Brookhaven updated its System Reliability Impact Study for this project and revised its short circuit analysis. The modifications did not change any of the overall conclusions previously presented. They showed fewer impacts resulting from the use of the Siemens Westinghouse facilities. By letter dated February 11, 2003, Brookhaven informed the Siting Board that the New York Independent System Operator (NYISO) had begun its process to accept the updated System Reliability Impact Study.

published, and notice served on the parties, there have been but three sets of comments received--all from state agencies with responsibilities to assure the accuracy of the information Brookhaven has presented here. The absence of any public opposition to the proposed amendments provides support for the findings and determinations we have reached in this case, as does the affirmative comments received from the three agencies. Had any party submitted opposing comments, or any other statements on a timely basis, we would have thoroughly considered them. The fact that no such comments or statements were filed suggests that the proposed certificate amendments are acceptable.

As to the procedures to be used here to consider Brookhaven's proposal, the company's proposed amendments do not appear to be certificate revisions, and no party has suggested otherwise.<sup>8</sup> In such circumstances, no hearings are mandated. Nonetheless, in exercising our discretion to hold hearings in this case, we find that hearings are not necessary for us to reach a proper decision given the sufficiency of the comments we received from the three state agencies. Their comments amply serve for us to fully evaluate the merits of Brookhaven's application, petition and affidavit. Moreover, no party has requested any hearings and the comments from the state agencies have been available to the public and they did not engender any opposition. Accordingly, we find that this proceeding is ripe for consideration on the merits of Brookhaven's proposed amendments.

Turning to the substance of Brookhaven's application and affidavit, we find that the proposed location of the overall facilities has not changed. The company has kept its plant at the same site and has constrained the configuration for the Siemens Westinghouse equipment to the "footprint" established

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<sup>8</sup> Pursuant to Public Service Law (PSL) §165(5) and 16 NYCRR §1000.15(c), hearings are required for certificate revisions that can result in a material increase in the proposed facility's environmental impacts or a substantial change in its location.

for the Alstom facilities. The Siemens Westinghouse facilities do not perfectly match the design of the original proposal, but the specific departures that have all been identified, in this instance, do not change the final results of our analysis of the facility's environmental impacts or the findings that must be made pursuant to Article X of the Public Service Law.

To begin, many portions of the original analysis made in this case are not affected by the company's proposal to switch to the Siemens Westinghouse facilities and equipment. This is true with respect to the archeological, soils, geology, seismology, wetlands, and transportation analyses that the Siting Board considered in this case. Also, the proposed changes to the electric facilities and equipment do not entail any change in construction methods or practices (e.g., schedules, employees and operations) that Brookhaven would use to build this facility.

None of this, however, discounts the fact that Brookhaven plans to install one generation building (instead of two), one air-cooled condenser (not two), and a single emergency diesel generator; and to make various other changes to switch from the Alstom design to the one provided by Siemens Westinghouse.

Importantly, neither the air emissions nor the noise expected from the Siemens Westinghouse equipment would be any greater than those expected from the Alstom facilities. In fact, the same air quality benefits can reasonably be expected from the Siemens Westinghouse facilities and it is likely that less noise will be heard from them. We also accept the DOH Staff assessment of the potential public health impacts of these facilities and find that they are essentially the same or less than those associated with the Alstom design.

We also find that water consumed and wastewater produced at the Siemens Westinghouse facilities would be substantially less than those using the Alstom design due to the change in the method to be used to augment electricity production during periods of warm weather. Thus, we find that

these environmental impacts are acceptable, as are the water system design alterations Brookhaven has proposed.

Brookhaven's proposed changes to the buildings that will house the generation facilities, and those made to the tower structures, will alter the appearance of this generation station. Consequently, close scrutiny of the plant's visual elements was necessary in this instance and the DPS Staff, in its comments, has reported some of the results of the inspection it made.

At DPS Staff's request, Brookhaven performed a qualitative examination of the thirteen simulated viewpoints that were previously evaluated on the record in this case. We find from the new simulations, which take into account the appearance of the Siemens Westinghouse structures, that there is no significant change in the visual impact of this project in comparison to the impacts that the Siting Board originally considered and found to be acceptable, over the Town of Brookhaven's objections.

Specifically, the single generator building proposed here has a twelve-foot lower profile than the two generator buildings the Siting Board originally certified. This change reduces the visibility of the building and provides a lesser impact, and certainly one that is no worse than the original design. Similarly, the installation of a single air-cooled condenser provides a visual impact comparable to the one the Siting Board originally found to be acceptable. While the reconfiguration of the air-cooled condenser building makes the structure appear somewhat more massive from Sills Road, we have not regarded the views from public highways to be of particular visual impact significance.

It is significant to the visual impact analysis made here that Brookhaven has kept all of the equipment and facilities it is now proposing to construct to the same grounds that were to be disturbed and used for the Alstom facilities. By using the same "footprint," the company has ensured that the visual impact of the new facilities will remain substantially the same as before.

The proposed reduction in the height of the demineralization tank also tends to reduce the facility's visual impact. This reduction will bring the tank within the local zoning requirements. Thus, this specific structure no longer requires any waiver of the local laws.

Addressing the tallest structures on the site, Brookhaven's proposal to increase the height of the heat recovery steam generator from 72 to 80 feet adds to the facility's profile. The repositioning of the stack for the emergency generator and the fire pumps to the 160 foot heat recovery steam generator stack tends to reduce the facility's profile. From our review of the most recent visual simulations the company has provided, we find that the visual impact of these structures is not significant and is acceptable with the mitigation the company is required to use. The compliance filing Brookhaven is required to submit to the Siting Board will contain the company's final selection of color patterns and architectural treatments it will use to minimize the remaining visual impact of the structures at this site.

Our decision to accept the visual impacts associated with the Siemens Westinghouse facilities is supported by the determination of the State Office of Parks, Recreation and Historic Preservation that this electric generation equipment has no adverse impact on any historic resources.

In sum, we have evaluated the probable environmental impacts associated with Brookhaven's proposal to use Siemens Westinghouse facilities, and the design modifications that this change entails, and we find that the modified facility will minimize adverse environmental impacts as required by PSL §168(2).

In making our finding that the modified facility will minimize adverse environmental impacts pursuant to PSL Article X, we note that the DEC Staff completed its review of the Applicant's request to modify the federally delegated environmental permits. The DEC Staff concluded that the proposed equipment change will not result in an increase in emissions of air pollutants or an increase in either water use

or wastewater discharge. Emissions of air pollutants and discharges of wastewater and stormwater will remain within the parameters of the permits previously issued by the DEC Commissioner. The DEC Staff concluded that the modifications to the air and SPDES permits are considered minor modifications that did not require additional public hearings. With cover letters dated March 13, 2003, the DEC provided us and the Applicant with copies of the modified air and SPDES permits for the Project.

Finally, with respect to the requirement that the proposed facility serve the public interest in accordance with PSL §168(2)(e), we find that the construction and operation of the modified Brookhaven facility is in the public interest given the production costs savings that are still expected from the operation of this plant, the contribution it will make to the competitive market for electricity, the reduction in overall air emissions from power generation that will result from the operation of this state-of-the art, natural gas fired combined-cycle electric generating facility, and the enhancement to electric system reliability that the facility will provide to the Long Island power grid. We find that the proposed facility is consistent with the State Energy Plan.

The Board on Electric Generation  
Siting and the Environment orders:

1. The Brookhaven Energy Limited Partnership petition and application for a certificate amendment, submitted by letter dated January 27, 2003, is granted.

2. The August 14, 2002 Opinion and Order Granting Certificate of Environmental Compatibility and Public Need in this case is amended and Conditions I.A.; I.D.(ii); and XI.A contained in Appendix B to the Opinion and Order are modified and restated as follows:

Condition I.A.

The Certificate Holder is authorized to construct and operate the Project, including associated interconnections, as described in the Application (as modified in the Petition for

Certificate Amendment) and the *Site Development Plan* accompanying the petition for Certificate Amendment, except as waived, modified or supplemented by this Certificate or other permits.

Condition I.D.(ii)

The Certificate Holder is authorized to construct the following buildings in excess of 50 feet: a generation building (at approximately 60 feet), and HRSGs (at approximately 80 feet), as shown on the *Site Development Plan* accompanying the Petition for Amendment. Certificate Holder is authorized to construct additional structures in excess of 50 feet: air-cooled condensers (approximately 90 feet), and electrical transmission structures including lightning rods (approximately 100 feet).

Condition XI.A

The Certificate Holder shall construct the Project using low-glare, neutral-colored architectural materials, and in accordance with Exhibit 22 (as supplemented by additional simulations included in the Petition for Certificate Amendment), which includes color and other architectural design principles. Certificate Holder shall report the results of its efforts to coordinate with the Local Liaison Committee (see Section VIII), and any subsequent proposed changes to the architectural color elevation drawings shall be incorporated in a Compliance Filing, as described in Exhibit 22; facility colors and architectural details shall be presented in such compliance filing.

3. Condition XII.B contained in Appendix B to the August 14, 2002 Opinion and Order pertaining to steam injections and power augmentation is hereby deleted.

4. This proceeding is continued.

By the New York State Board on  
Electric Generation Siting and the  
Environment

(SIGNED)

JANET HAND DEIXLER  
Secretary to the Board